July 2, 2014

R307. Environmental Quality, Air Quality.
R307-350. Miscellaneous Metal Parts and Products Coatings.
R307-350-1. Purpose.

The purpose of R307-350 is to limit volatile organic compound (VOC) emissions from miscellaneous metal parts and products coating operations.

R307-350-2. Applicability.

(1) R307-350 applies to sources located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties where the potential to emit VOC emissions from all miscellaneous metal product parts surface coating operations, including related cleaning activities, is 2.7 tons per year or more.

[~~(2) In Box Elder and Tooele counties, R307-350 applies to the following sources:~~

~~(a) Existing sources as of February 1, 2013, with the potential to emit 5 tons per year or more of VOC, including related cleaning activities; and~~

~~(b) New sources as of February 1, 2013, that have the potential to emit 2.7 tons per year or more of VOC, including related cleaning activities.~~]

([~~3~~]2) R307-350 applies to, but is not limited to, the following industries:

(a) Large farm machinery (harvesting, fertilizing, planting, tractors, combines, etc.);

(b) Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.)

(c) Small appliance (fans, mixers, blenders, crock pots, vacuum cleaners, etc.);

(d) Commercial machinery (computers, typewriters, calculators, vending machines, etc.);

(e) Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

(f) Fabricated metal products (metal covered doors, frames, trailer frames, etc.); and

(g) Any other industrial category that coats metal parts or products under the standard Industrial Classification Code of major group 33 (primary metal industries), major group 34 (fabricated metal products), major group 35 (nonelectric machinery), major group 36 (electrical machinery), major group 37 (transportation equipment) major group 38 (miscellaneous instruments), and major group 39 (miscellaneous manufacturing industries).

R307-350-3. Exemptions.

(1) The requirements of R307-350 do not apply to the following:

(a) The surface coating of automobiles and light-duty trucks;

(b) Flat metal sheets and strips in the form of rolls or coils;

(c) Surface coating of aerospace vehicles and components;

(d) Automobile refinishing;

(e) The exterior of marine vessels;

(f) Customized top coating of automobiles and trucks if production is less than 35 vehicles per day;

(g) Military munitions manufactured by or for the Armed Forces

of the United States;
(h) Operations that are exclusively covered by Department of Defense military technical data and performed by a Department of Defense contractor and/or on site at installations owned and/or operated by the United States Armed Forces; or
(i) Stripping of cured coatings and adhesives.
(2) The requirements of R307-350-5 do not apply to the following:
(a) Stencil coatings;
(b) Safety-indicating coatings;
(c) Solid-film lubricants;
(d) Electric-insulating and thermal-conducting coatings;
(e) Magnetic data storage disk coatings; or
(f) Plastic extruded onto metal parts to form a coating.
(3) The requirements of R307-350-6 do not apply to the following:
(a) Touch-up coatings;
(b) Repair coatings; or
(c) Textured finishes.

R307-350-4. Definitions.

The following additional definitions apply to R307-350:

"Aerospace vehicles and component" means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets and space vehicles.

"Air dried coating" means coatings that are dried by the use of air or a forced warm air at temperatures up to 194 degrees Fahrenheit.

"Baked coating" means coatings that are cured at a temperature at or above 194 degrees Fahrenheit.

"Camouflage coating" means coatings that are used, principally by the military, to conceal equipment from detection.

"Coating" means a material applied to a substrate for decorative, protective, or functional purposes.

(1) Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants.

(2) Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings.

"Coating application System" means all operations and equipment that applies, conveys, and dries a surface coating, including, but not limited to, spray booths, flow coaters, flash off areas, air dryers and ovens.

"Cured coating or adhesive" means a coating or adhesive, which is dry to the touch.

"Department of Defense military technical data" means a specification that specifies design requirements, such as materials to be used, how a requirement is to be achieved, or how an item is

to be fabricated or constructed.

"Dip coating" means a method of applying coatings to a substrate by submersion into and removal from a coating bath.

"Electric-insulating varnish" means a non-convertible-type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

"Electric-insulating and thermal-conducting" means a coating that displays an electrical insulation of at least 1000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 0.27 BTU per hour-foot-degree-Fahrenheit.

"Electrostatic application" means a method of applying coating particles or coating droplets to a grounded substrate by electrically charging them.

"Etching filler" mean a coating that contains less than 23% solids by weight and at least 0.5% acid by weight, and is used instead of applying a pretreatment coating followed by a primer.

"Extreme high-gloss coating" means a coating which, when tested by the American Society for Testing Material (ASTM) Test Method D-523 adopted in 1980, shows a reflectance of 75 or more on a 60 degree meter.

"Extreme performance coatings" means coatings designed for harsh exposure or extreme environmental conditions.

"Flow coat" means a non-atomized technique of applying coatings to a substrate with a fluid nozzle in a fan pattern with no air supplied to the nozzle.

"Heat-resistant coating" means a coating that must withstand a temperature of at least 400 degrees Fahrenheit during normal use.

"High-performance architectural coating" means a coating used to protect architectural subsections and which meets the requirements of the Architectural Aluminum Manufacturer Association's publication number AAMA 605.2-1980.

"High-temperature coating" means a coating that is certified to with-stand a temperature of 1,000 degrees Fahrenheit for 24 hours.

"High-volume, low-pressure (HVLP) spray" means a coating application system which is designed to be operated and which is operated between 0.1 and 10 pounds per square inch gauge (psig) air pressure, measured dynamically at the center of the air cap and the air horns.

"Magnetic data storage disk coating" means a coating used on a metal disk which stores data magnetically.

"Metallic coating" means a coating which contains more than 5 grams of metal particles per liter of coating, applied.

"Military specification coating" means a coating applied to metal parts and products and which has a formulation approved by a United States military agency for use on military equipment.

"Mold-seal coating" means the initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

"Multi-component coating" means a coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film.

"One-component coating" means a coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner, necessary to reduce the viscosity, is not considered a component.

"Pan backing coating" means a coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating elements.

"Prefabricated architectural component coatings" means coatings applied to metal parts and products that are to be used as an architectural structure or their appurtenances including, but not limited to, hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, and large fixed stationary tools.

"Pretreatment coating" means a coating which contains no more than 12% solids by weight, and at least 0.5% acid, by weight, is used to provide surface etching, and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

"Primer" means a coating applied to a surface to provide a firm bond between the substrate and subsequent coats.

"Repair coating" means a coating used to recoat portions of a part or product which has sustained mechanical damage to the coating.

"Safety-indicating coating" means a coating which changes physical characteristics, such as color, to indicate unsafe condition.

"Silicone release coating" means any coating which contains silicone resin and is intended to prevent food from sticking to metal surfaces.

"Solar-absorbent coating" means a coating which has as its prime purpose the absorption of solar radiation.

"Solid-film lubricant" means a very thin coating consisting of a binder system containing as its chief pigment material one or more of molybdenum disulfide, graphite, polytetrafluoroethylene (PTEF) or other solids that act as a dry lubricant between faying surfaces.

"Stencil coating" means an ink or a coating which is rolled or brushed onto a template or stamp in order to add identifying letters or numbers to metal parts and products.

"Textured finish" means a rough surface produced by spraying and splattering large drops of coating onto a previously applied coating. The coatings used to form the appearance of the textured finish are referred to as textured coatings.

"Touch-up coating" means a coating used to cover minor coating imperfections appearing after the main coating operation.

"Vacuum-metalizing coating" means the undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film.

R307-350-5. [~~Emission Standards~~]VOC Content Limits.

(1) Each owner or operator shall not apply coatings with a VOC content in excess of the amounts specified in Table 1 or shall use an add-on control device as specified in R307-350-8.

TABLE 1

July 2, 2014

METAL PARTS AND PRODUCTS VOC CONTENT LIMITS
(values in pounds of VOC per gallon of coating, minus water and exempt solvents (compounds not classified as VOC)), as applied

COATING CATEGORY	VOC CONTENT LIMITS	
	Air Dried	Baked
General One Component	2.8	2.3
General Multi Component	2.8	2.3
Camouflage	3.5	3.5
Electric-Insulating varnish	3.5	3.5
Etching Filler	3.5	3.5
Extreme High-Gloss	3.5	3.0
Extreme Performance	3.5	3.0
Heat-Resistant	3.5	3.0
High Performance architectural	6.2	6.2
High Temperature	3.5	3.5
Metallic	3.5	3.5
Military Specification	2.8	2.3
Mold-Seal	3.5	3.5
Pan Backing	3.5	3.5
Prefabricated Architectural Multi-Component	3.5	2.3
Prefabricated Architectural One-Component	3.5	2.3
Pretreatment Coatings	3.5	3.5
Repair and Touch Up	3.5	3.0
Silicone Release	3.5	3.5
Solar-Absorbent	3.5	3.0
Vacuum-Metalizing	3.5	3.5

Drum Coating, New, Exterior	2.8	2.8
Drum Coating, New, Interior	3.5	3.5
Drum Coating, Reconditioned, Exterior	3.5	3.5
Drum Coating, Reconditioned, Interior	4.2	4.2

(2) If more than one content limit indicated in this section applies to a specific coating, then the most stringent content limit shall apply.

R307-350-6. Application Methods.

No owner or operator of a facility shall apply VOC containing coatings to metal parts and products unless the coating is applied with equipment operated according to the equipment manufacturer specifications, and by the use of one of the following methods:

(1) Electrostatic application;
(2) Flow coat;
(3) Dip/electrodeposition coat;
(4) Roll coat;
(5) High-volume, low-pressure (HVLP) spray;
(6) Hand Application Methods;
(7) Airless or air-assisted airless spray may also be used for metal coatings with a viscosity of 15,000 centipoise or greater, as supplied; or
(8) Another application method capable of achieving transfer efficiency equivalent or better to HVLP spray, as certified by the manufacturer.

R307-350-7. Work Practices and Recordkeeping.

(1) Control techniques and work practices shall be implemented at all times to reduce VOC emissions[~~ from fugitive type sources~~]. Control techniques and work practices shall include, but are not limited to:

(a) Storing all VOC-containing coatings, thinners, and coating-related waste materials in closed containers;

(b) Ensuring that mixing and storage containers used for VOC-containing coatings, thinners, and coating-related waste material are kept closed at all times except when depositing or removing these materials;

(c) Minimizing spills of VOC-containing coatings, thinners, and coating-related waste materials; and

(d) Conveying VOC-containing coatings, thinners, and coating-related waste materials from one location to another in closed container or pipes; and

(e) Minimizing VOC emission from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(2) All persons shall perform solvent cleaning operations with cleaning material having VOC content of 0.21 pounds per gallon or less.

(3) All sources subject to R307-350 shall maintain records demonstrating compliance with[~~all provisions of~~] R307-350-5, R307-350-6, and R307-350-7(2)[~~on an annual basis~~].

(a) Records shall include, but not be limited to, inventory and product data sheets of all coatings and solvents subject to R307-350.

(b) These records shall be available to the director upon request.

R307-350-8. [~~Optional~~]Add-On Control[~~s~~] Systems Operations.

[~~(1) The owner or operator may install and maintain an incinerator, carbon adsorption, or any other add-on emission control device, provided that the emission control device will attain at least 90% efficiency performance.~~

~~(2) The owner or operator of a control device shall provide documentation that the emission control system will attain the requirements of R307-350-8.~~

~~(3) Emission control systems shall be operated and maintained in accordance with the manufacturer recommendations. The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.~~]

(1) The owner or operator shall install and maintain an incinerator, carbon adsorption, or any other add-on emission control system, provided that the emission control system is operated and maintained in accordance with the manufacturer recommendations in order to maintain at least 90% capture and control efficiency. Determination of overall capture and control efficiency shall be determined using EPA approved methods, as follows.

(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

(b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.

(c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.

(2) The owner or operator of a control system shall provide documentation that the emission control system will attain the requirements of R307-350-8(1).

(3) The owner or operator shall maintain records of key system parameters necessary to ensure compliance with R307-350-8. Key system parameters may include, but are not limited to, temperature, pressure and flow rates. Operator inspection schedule, monitoring, recordkeeping, and key parameters shall be in accordance with the

manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.

(4) The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.

[~~R307-350-9. Compliance Schedule.~~

~~All sources shall be in compliance with the requirements of R307-350 by January 1, 2014.~~]

KEY: air pollution, emission controls, coatings, miscellaneous metal parts

Date of Enactment or Last Substantive Amendment: [~~December 3, 2013~~]2014

Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)